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Hormone-treated transsexuals report less social distress, anxiety and depression

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Summary
Introduction: The aim of the present study was to evaluate the presence of symptoms of current social distress, anxiety and depression in transsexuals.
Methods: We investigated a group of 187 transsexual patients attending a gender identity unit; 120 had undergone hormonal sex-reassignment (SR) treatment and 67 had not. We used the Social Anxiety and Distress Scale (SADS) for assessing social anxiety and the Hospital Anxiety and Depression Scale (HADS) for evaluating current depression and anxiety.
Results: The mean SADS and HADS scores were in the normal range except for the HAD-Anxiety subscale (HAD-A) on the non-treated transsexual group. SADS, HAD-A, and HAD-Depression (HAD-D) mean scores were significantly higher among patients who had not begun cross-sex hormonal treatment compared with patients in hormonal treatment ($F = 4.362$, $p = .038$; $F = 14.589$, $p = .001$; $F = 9.523$, $p = .002$ respectively). Similarly, current symptoms of anxiety and depression were present in a significantly higher percentage of untreated patients than in treated patients (61% vs. 33% and 31% vs. 8% respectively).
Conclusions: The results suggest that most transsexual patients attending a gender identity unit reported subclinical levels of social distress, anxiety, and depression. Moreover, patients under cross-sex hormonal treatment displayed a lower prevalence of these symptoms than patients who

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had not initiated hormonal therapy. Although the findings do not conclusively demonstrate a direct positive effect of hormone treatment in transsexuals, initiating this treatment may be associated with better mental health of these patients.

1. Introduction

Transsexual patients are characterized by a strong and persistent sense of inappropriateness of their biological sex. Therefore, their perception of their physical appearance as unattractive is common, particularly before the onset of sex reassignment (SR) treatment and during the transition to the other sex (Gómez-Gil and Esteva de Antonio, 2006). The treatment for transsexualism comprises a set of hormonal and surgical procedures that imply changes to the physical appearance and function of primary and secondary sex characteristics to make the person's body as congruent with the opposite sex as possible. In male-to-female (MF) transsexuals, hormonal treatment with estrogens and antiandrogens induces breast enlargement, a female distribution of fat, and a reduction of male-pattern hair growth. In female-to-male (FM) transsexuals, hormonal treatment with testosterone encourages virilization including male-pattern hair growth, the development of male physical contours, and the cessation of uterine bleeding (Michel et al., 2001). SR surgery in MF patients involves creation of a neovagina and clitoris, often implantation of breast prostheses, and sometimes other feminizing surgeries. Surgeries available to the FM transsexual persons include mastectomy, complete hysterectomy, and construction of a neophallus (Gooren, 2011).

Preoperative transsexuals are insecure and feel unattractive because of concerns about their body image (Kraemer et al., 2008). According to our own clinical observations, the incongruent body image of transsexual patients before SR treatment as well as how they believe others perceive them is often reported as one of the main reasons for their work problems, decreased social life and fear of being judged as a sick person (Gómez-Gil and Esteva de Antonio, 2006). Moreover, in patients who have initiated transition late, prior hormonal effects on the skeleton and vocal cords cannot be reversed with cross-sex hormonal therapy (Gooren, 2011). Furthermore, the surgical treatment is not covered by the health services in most countries. Therefore, many patients cannot undergo or complete hormonal or surgical SR. Additionally, expectation about physical appearance and life after SR may be unrealistic in some patients. Moreover, Lundström et al. (1984) expressed reservations about the advisability of SR in patients with late-onset transsexualism or in patients who initiated transition after the age of 30.

Individuals who feel unattractive tend to have more social anxiety and to suffer mixed adaptive emotional disorders such as anxiety and depression (Leary and Kowalski, 1995). The presence of these symptoms is not indicative of mental pathology in itself, though it may pose an important problem when the intensity and duration of the symptoms are elevated. Social anxiety or social distress is characterized by fear and avoidance of situations that involve possible scrutiny by others. Though symptoms of social anxiety are most commonly associated with social phobia and avoidant personality disorder, they may be present in various problematic life events (Leary and Kowalski, 1995; Schlatter Navarro and Cervera Enguix, 2010).

There is little quantitative and categorical work about the experience of social distress and emotional disturbances in children, adolescents and adults with gender identity disorders. In children with gender identity disorders, Zucker and Bradley (1995) showed that they have, on average, more behavior and emotional problems than their siblings and controls. Wallien et al. (2007) found that about half of children referred for gender identity disorders met criteria of other psychiatric disorders, such as anxiety disorder (31%), disruptive disorder (23%) and mood disorder (6%). In adolescents, de Vries et al. (2011) found that 67.6% had no concurrent psychiatric disorder, anxiety disorders occurred in 21%, mood disorders in 12.4%, and disruptive disorders in 11.4%. In adult transsexuals, our team and others (Haraldsen and Dahl, 2000; Hepp et al., 2005; Gómez-Gil et al., 2009b) have reported that a history of adjustment disorders are equally very frequent in both MF and FM transsexuals while substance abuse was more common in MF transsexuals. Moreover, the prevalence of comorbid social phobia was 8.2% in MF and 11.3% in FM transsexuals (Gómez-Gil et al., 2009b).

Study into the possible effects of hormonal and surgical SR therapy on psychological parameters has mainly been focused on the effects of genital SR surgery. Several studies have demonstrated that after genital surgery, transsexuals had a better quality of life (Rakic et al., 1996; Newfield et al., 2006; Kuhn et al., 2009; Ainsworth and Spiegel, 2010), personal satisfaction (Lothstein, 1984; Cohen-Kettenis and van Goozen, 1997; Rehman et al., 1999; Lawrence, 2003), and self-confidence with their body image and self-image (Bodlund and Armelius, 1994; Wolfradt and Neumann, 2001; Kraemer et al., 2008; Weyers et al., 2009). In contrast, literature on the effect of cross-sex hormone therapy on psychological parameters is more limited. Most of the existing studies focus on changes in cognitive functions, such as specific abilities or verbal fluency, induced by the hormonal treatment (Van Goozen et al., 1995; Slabbekoorn et al., 1999; Gooren and Giltay, 2008; Gómez-Gil et al., 2009a), nevertheless the results are still controversial (Haraldsen et al., 2005; Miles et al., 2006). There is, surprisingly, little work on the effect of hormone therapy on anxiety levels and mood in transsexuals. Asscheman et al. (1989) found that combined treatment with estrogen and cyproterone acetate in MF transsexuals was associated with a 15-fold increase in depressive mood changes, however, much of the morbidity was minor. Leavitt et al. (1980) found that MF transsexuals receiving hormonal therapy showed less psychopathology on MMPI scales than untreated patients. Additionally, our team has reported that MF and FM transsexuals in the initial phases of SR may experience more distress than in later phases, but this was unlikely to have a clinically relevant impact (Gómez-Gil et al., 2008).